

# ***Space Infrastructure Development: Commercial Needs Perspectives***

**The Fall 2001 National Meeting of  
The Aerospace Technology Working Group**



**November 5<sup>th</sup>–8<sup>th</sup>, 2001**

**Host:**

**George Mason University**

**Administration:**

**Space Power Institute  
Auburn University**

**Location:**

**Herndon, Virginia**

**[www.aerospace.systems.org](http://www.aerospace.systems.org)**

## ***The Mission***

**The Aerospace Technology Working Group (ATWG) is a technical forum to facilitate an open dialogue between Government, Academia and Industry in the area of future human space endeavors. This involves a need to understand the external drivers, future scenarios and strategies required to converge possible mission/requirements and develop advanced space technology/system roadmaps.**

**The ATWG forums include space experts from NASA, other government entities, aerospace contractors, leading systems suppliers, entrepreneurial businesses, professional societies and universities.**

## ***The Vision***

**Develop and nurture a growing, re-vitalized and thriving United States aerospace and space commerce industry, reflected by preeminence in civil and commercial space, an industry that places the United States at the leading edge of a new international space economy and creates sustainable economic development and prosperity for the people.**



## ***Space Infrastructure Development: Commercial Needs Perspectives***

**The National Aeronautics and Space Administration is pleased to announce the Fall 2001 National Meeting of the Aerospace Technology Working Group (ATWG), focusing on space infrastructure development needs from the commercial perspective.**

**Ideas that will be developed and presented include Space Infrastructure Development, Technology Commercialization, Space Commerce, and Space Operations. Topics such as space basing operations, orbital transfer capabilities, asteroids and earth orbit crossing objects, and emerging hardware for space applications will be part of the general discussion.**

**Focused ideas associated with the following questions will be developed. “Where do we want to be as a nation thirty years from now in leading Outer Space Infrastructure Development and becoming universally competitive in the evolving Space Commerce Market?”**

**In addition, “Let’s Get Bullish on Space” is a planned session to examine vision and implementation possibilities in the 2020 and 2050 time frames.**

**This meeting provides an opportunity for those working on future space systems and mission architectures (including NASA, other government entities, academia and industry) to share needs with the ATWG community.**

**Monday**  
**November 5<sup>th</sup>, 2001**  
(Informal Dress)

**www.aerospace.systems.org**

***“Space Infrastructure Development: Commercial Needs Perspectives ”***

**Tuesday**  
**November 6<sup>th</sup>, 2001**  
 (Business Casual Dress)

**Location:**                **Center For Innovative Technology**  
**2214 Rock Hill Road, Herndon, Virginia 20170**

**Registration** Opens at 7:15 AM

***Welcome*** 8:00 AM to 8:15 AM  
 Frank Hoban, George Mason School of Public Policy  
 Dr. Ken Cox, NASA JSC

***NASA’s Space Launch Initiative*** 8:15 AM to 9:45 AM  
 Session Chair:    Mack Henderson, NASA JSC  
 8:15 AM, Space Launch Initiative Program Status Dennis Smith, NASA MSFC  
 8:45 AM, Strategic Technology Considerations Dennis Smith, NASA MSFC  
 9:15 AM, JSC’s SLI Roles Doug Whitehead, NASA JSC  
 9:35 AM, Shuttle Upgrades Mack Henderson, NASA JSC

**Break** 9:45 AM to 10:00 AM

***FAA Perspective on Commercial Operations*** 10:00 AM to 11:45 AM  
 Session Chair:    Chuck Larsen, FAA  
 10:00 AM, Humans On-board Commercial Reusable Launch Vehicles Ken Wong, FAA  
 10:30 AM, Operations and Maintenance on Commercial Reusable Launch Vehicles Chuck Larsen, FAA  
 11:00 AM, FAA/AST Commercial Space Transportation R&D Program Chuck Larsen, FAA

**Lunch Break** 11:45 AM to 12:15 PM  
**Invited Speaker: Pat Troutman, NASA LaRC** 12: 15 PM to 1:00 PM

***Near Earth Space Utilization*** 1:00 PM to 1:45 PM  
 Session Chair: Gary Martin, NASA HQ  
 1:00 PM, NASA’s plans, issues & challenges Gary Martin, NASA HQ

***Near Earth Space Utilization Perspectives Panel*** 1:45 PM to 2:45 PM  
 Panel Facilitator: Ken Cox, NASA JSC  
 Panel Members:  
                          Gary Martin, NASA HQ  
                          Charles Walker, Boeing  
                          Graham O’Neil, USA

**Break** 2:45 PM to 3:00 PM

***Commercial Access to Space: issues, plans & opportunities ....*** 3:00 PM to 4:45 PM  
 Session Chair: Henry Brandhorst, Auburn University  
 3:00 PM, Commercial Center Perspectives Mark Uhran, NASA HQ  
 3:45 PM, Shuttle Payload Perspectives Ladonna Miller, NASA JSC  
 4:15 PM, International Space Station Research and Technology John-David Bartoe, NASA JSC

## ***“Space Infrastructure Development: Commercial Needs Perspectives ”***

**Wednesday**  
**November 7<sup>th</sup>, 2001**  
 (Business Dress)

**Location: JC Cinema, Johnson Center, George Mason University**  
**440 University Drive, Fairfax, Virginia 22030**

“Where do we want to be as a nation thirty years from now in leading Outer Space Infrastructure Development and becoming universally competitive in the evolving Space Commerce Market?”

**Welcome & Introduction, Henry Brandhorst, Auburn** 8:30 AM to 8:40 AM

***Academia and Industry Perspectives*** 8:40 AM to 10:20 AM

Session Chair: Ken Cox, NASA JSC

8:40 AM,

9:05 AM,

9:30 AM,

9:55 AM,

Rick Tumlinson, Space Frontier Foundation

Mike Wiskerchen, UCSD

Ed Muniz, Muniz Engineering

Michael Good, Honeywell

**Break** 10:20 AM to 10:30 AM

***Academia and Industry Perspectives Panel*** 10:30 AM to 11:30 PM

Panel Moderator: Ken Cox, NASA JSC

Panel Members:

Mike Wiskerchen, UCSD

Ed Muniz, Muniz Engineering

Rick Tumlinson, Space Frontier Foundation

Bill Gregory, Honeywell

**Lunch Break** 11:30 PM to 1:00 PM

**Keynote Speaker: Missions and Launch Systems in 2020 and 2050 Derived From the NASA/GMU Spaceport Study** **Frank Hoban, George Mason University**

***Let's Get Bullish on Space*** 1:00 PM to 4:00 PM

Session Chair: Ken Cox, NASA JSC

1:00 PM, Parallel Working Groups – Develop Additional Missions and Systems Models

1:35 PM, Working Group Response

2:00 PM, How Do We Make the Possibilities Real?

Major Assault on Costs

Role of Government

Exploration Opportunities and Barriers

Technology/System Roadmaps

2:40 PM, Break

2:50 PM, Reports from Possibilities Discussion Groups

3:40 PM, Strategies for Follow-up Futures Workshop

4:00PM, Adjourn

# ***"Space Infrastructure Development: Commercial Needs Perspectives "***

**Thursday  
November 8<sup>th</sup>, 2001**

(Business Casual Dress)

**Location: Center For Innovative Technology  
2214 Rock Hill Road, Herndon, Virginia 20170**

**Welcome, Ken Cox, NASA JSC**

8:00 AM to 8:15 AM

## ***Near Earth Objects and Earth Crossing Objects***

8:15 AM to 10:15 AM

**Session Co-Chairs: Bill Smith, Smith Ventures, Inc.  
Dave Morrison, ARC**

**8:15 AM, Overview**

Dave Morrison, NASA ARC

**9:00 AM, Government and Policy Issues**

Geoffrey Sommer, RAND

**9:45 AM, Space Environments and Effects**

Ray Erikson, Erikson Technical Associates

**Break**

10:15 AM to 10:30 AM

## ***Additional Topics***

10:30 AM to 12:15 PM

**10:30 PM, Monday Workshop Results**

Workshop Chairpersons

**11:00 AM, LARC Space Infrastructure and Construction Concepts**

John Dorsey, NASA LaRC

**11:45 AM, Lessons from the Propulsion Synergy Group**

Walt Dankhoff, SAIC

**Lunch Break**

12:15 PM to 1:30 PM

**Invited Speaker: Roger Launius, NASA Chief Historian**

## ***Spaceports, Now and the Future***

1:30 PM to 4:00 PM

**Session Chair: Frank Hoban, George Mason University**

**1:30 PM, Overview and Panel Insights**

Spaceport Operations

NASA Headquarters

Airport Management and Operations

NRO Perspectives

NASA KSC

**3:15 PM, Break**

**3:25 PM, Developing Our Engineering Work Force**

Pat Patterson, NASA HQ

**4:00 PM, Adjourn**

***“Space Infrastructure Development: Commercial Needs Perspectives ”***

**Friday**

**November 9<sup>th</sup>, 2001**

**Location:** Near Country Inn & Suites, Sterling, Virginia

**ATWG:**

***Steering/Planning Committee Breakfast Meeting***

**7:30 AM to 10:00 AM**

**Post Meeting Feedback**

**Initial planning of sessions for the Spring 2002 National Meeting**

- 13<sup>th</sup> – 16<sup>th</sup> May 2002
- Phoenix, Arizona
- Host – Challenger Center
- Theme – Space Infrastructure Development: Near Earth Neighborhood



## ***General Information***

**CONFERENCE REGISTRATION:** Registration fee for the meeting is \$275.00 per person payable in advance. The attached registration form should be mailed or faxed to the Space Research Institute. Checks should be made to Auburn University. Registration may also be made with credit cards. [a complete listing of credit cards accepted is included on the registration form]. Registrations received before November 1<sup>st</sup>, 2001 will have their confirmation/receipt faxed to them.

**LODGING:** The Country Inn & Suites in Sterling, Virginia will serve as the conference headquarters hotel. Rooms are reserved for ATWG attendees. Reserve your room directly with the hotel. Early registration is highly recommended, as rooms are limited. You must mention the "ATWG" group when making reservations to receive the conference room rate.

**Country Inn & Suites**  
45620 Falke Plaza,  
Sterling, VA 20166  
Phone: 703.435.2700 Fax: 703.435.6456

**ATWG Rate \$ 89.00**

### **MEETING CENTER:**

**The Institute of Public Policy, George Mason University**  
2214 Rock Hill Road  
Herndon, Virginia 20170  
Phone: 703.733.2831 Fax: 703.733.2809

**TRANSPORTATION:** Each participant is responsible for his or her own transportation.

**ATTENDEE LIST:** The conference attendee list will be made available to all attendees before final adjournment.

**WELCOME AND CHECK IN:** An informal reception will be held at a local restaurant on Monday evening from 5:00 PM to 7:00 PM. Don't miss this opportunity to meet old acquaintances and make new friends before we formally get down to business.

### **CONTACT INFORMATION:**

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Auburn University, AL 36849  
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Edwargm@auburn.edu

**ATWG Registration**

Fall 2001 National Meeting,  
**Herndon, Virginia**

November 5<sup>th</sup> – 8<sup>th</sup>, 2001

Host:  
 George Mason University

Administration:  
 Space Research Institute,  
 Auburn University

Meeting Headquarters/Hotel:  
 Country Inn & Suites,  
 Sterling, Virginia

Registration includes admittance to all sessions and includes one copy of both the attendee's list and the ATWG Conference Proceedings on CD-ROM.

- Regular Registration Fee \$275.00 \_\_\_\_\_
- Late Registration Fee (waived)

**Total Payment Due** \_\_\_\_\_

All conference attendees please complete this form and pay the meeting registration fee, regardless of the number of days that you attend. Please remember that registration fees fund ATWG conferences.

**Attendee**

**Name:** \_\_\_\_\_

**Title:** \_\_\_\_\_

**Organization:** \_\_\_\_\_

**Department/Mail Code:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**City:** \_\_\_\_\_ **State:** \_\_\_\_\_ **Postal Code:** \_\_\_\_\_

**Phone:** \_\_\_\_\_ **Fax:** \_\_\_\_\_

**E-Mail:** \_\_\_\_\_

**Please Note:** Payment must accompany the registration form. Payment should be in form of Credit Card (Mastercard and Visa only), check or money order made payable to **Auburn University**. Mail or Fax your registration to the following address:

**ATWG Fall 2001 Registration**

c/o **Space Research Institute**

231 Leach Center,

Auburn University, AL 36849

fax number for registrations **334.844.5900**

**Credit Card Information**

Type: circle one(Visa and Mastercard) .....

Name (as on Card) .....

Account # .....

Exp. Date .....

Signature: .....